



E-Star Power Development Co., Ltd. (E-STAR)  
1F., No.40, Juren Ln., Sec. 2, Sanmin Rd., Banciao Dist., New Taipei City  
22069, Taiwan (R.O.C.)  
Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

## 150W LED Driver power supply < HLG-150H



SELV IP65 IP67



### Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer;  
3 in 1 dimming
- Typical lifetime > 62000 hours
- 7 years warranty

### Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2  
hazardous (Classified) location.

### Description

HLG-150H series is a 150W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-150H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 94%, with the fanless design, the entire series is able to operate for -40°C ~ +90°C case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-150H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

### Model Encoding

HLG - 150H - 15 A

Function options

Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)

Rated wattage

Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request



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### SPECIFICATION

MODEL		HLG-150H-12	HLG-150H-15	HLG-150H-20	HLG-150H-24	HLG-150H-30	HLG-150H-36	HLG-150H-42	HLG-150H-48	HLG-150H-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION <small>Note.4</small>	6 ~ 12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	12.5A	10A	7.5A	6.3A	5A	4.2A	3.6A	3.2A	2.8A
	RATED POWER	150W	150W	150W	151.2W	150W	151.2W	151.2W	153.6W	151.2W
	RIPPLE & NOISE (max.) <small>Note.2</small>	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer)								
		10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer)								
		7.5 ~ 12.5A	6 ~ 10A	4.5 ~ 7.5A	3.8 ~ 6.3A	3 ~ 5A	2.5 ~ 4.2A	2.16 ~ 3.6A	1.92 ~ 3.2A	1.68 ~ 2.8A
	VOLTAGE TOLERANCE <small>Note.3</small>	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
INPUT	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME <small>Note.6</small>	1000ms, 200ms/115VAC 500ms, 200ms/230VAC								
	HOLD UP TIME (Typ.)	16ms / 115VAC, 230VAC								
	VOLTAGE RANGE <small>Note.5</small>	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF ≥ 0.98/115VAC, PF ≥ 0.95/230VAC, PF ≥ 0.92/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION	THD < 20% (@ load ≥ 60% / 115VAC, 230VAC; @ load ≥ 75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
PROTECTION	EFFICIENCY (Typ.)	91.5%	92%	93%	93%	93.5%	93.5%	94%	94%	94%
	AC CURRENT (Typ.)	1.7A / 115VAC	0.75A / 230VAC	0.7A / 277VAC						
	INRUSH CURRENT (Typ.)	COLD START 65A (width=425μs measured at 50% I <sub>peak</sub> ) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	4 units (circuit breaker of type B) / 7 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	< 0.75mA / 277VAC								
	OVER CURRENT	95 ~ 108% Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed								
ENVIRONMENT	OVER VOLTAGE	14 ~ 17V	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 63V	59 ~ 65V
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down								
	WORKING TEMP.	T <sub>case</sub> = -40 ~ +90°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	T <sub>case</sub> = +90°C								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
SAFETY & EMC	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 60°C)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
	SAFETY STANDARDS	UL8750(type"HL"), CSA C22.2 No. 250.0-08; TUV EN61347-1, EN61347-2-13 independent; GB19510.1, GB19510.14; IP65 or IP67; J61347-1, J61347-2-13 approved; design refer to UL60950-1, TUV EN60950-1								
	WITHSTAND VOLTAGE	I/P-O/P: 3.75KVAC I/P-FG: 2KVAC O/P-FG: 1.5KVAC								
OTHERS	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25°C / 70% RH								
	EMC EMISSION	Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (@ load ≥ 60%); EN61000-3-3, GB17743 and GB17625.1								
	EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61547, EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV)								
	MTBF	192.2K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	228*68*38.8mm								
NOTE	PACKING	1.15Kg; 12pcs/14.8Kg/0.8CUFT								
		1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Please refer to "DRIVING METHODS OF LED MODULE". 5. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. 7. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. 8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains. 9. This series meets the typical life expectancy of >62,000 hours of operation when T <sub>case</sub> , particularly (C) point (or T <sub>MP</sub> , per DLC), is about 80°C or less.								



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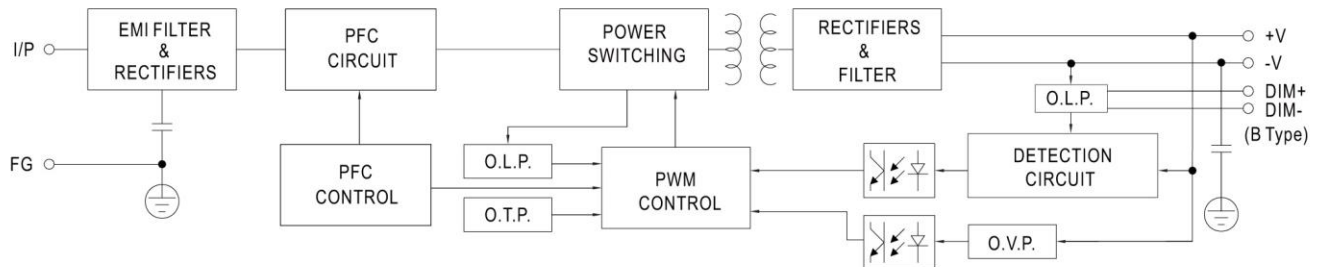
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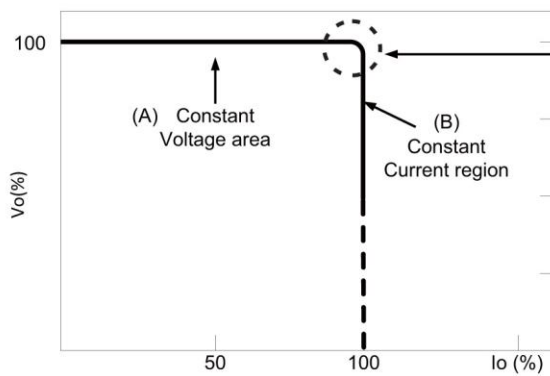
### BLOCK DIAGRAM

Fosc : 100KHz



### DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



Typical output current normalized by rated current (%)

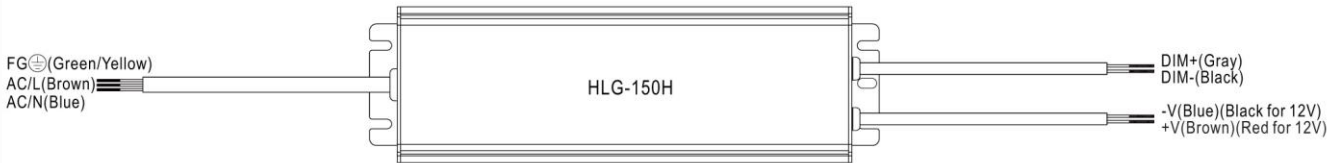
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.





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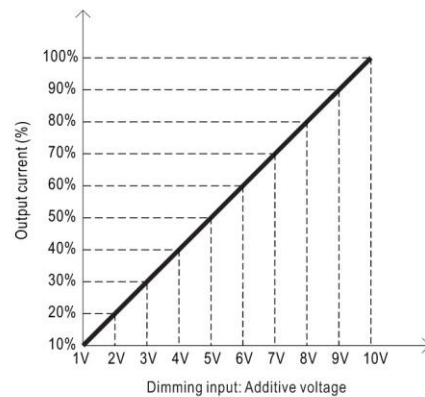
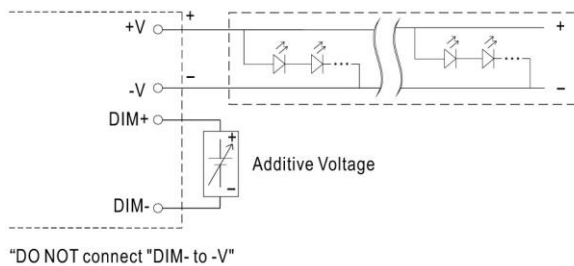
**■ DIMMING OPERATION**



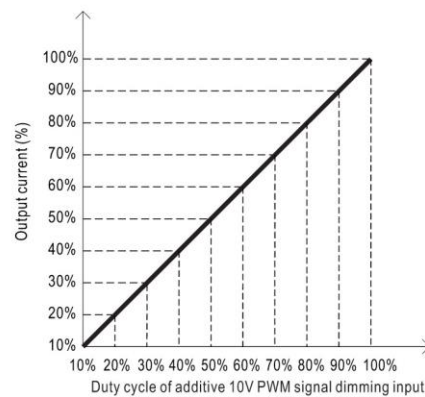
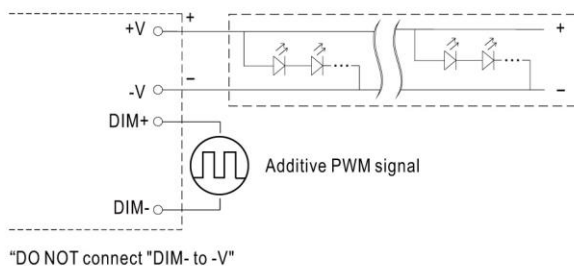
**※ 3 in 1 dimming function (for B-Type)**

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:  
1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 $\mu$ A (typ.)

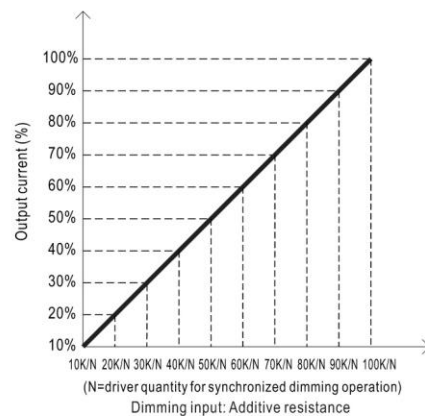
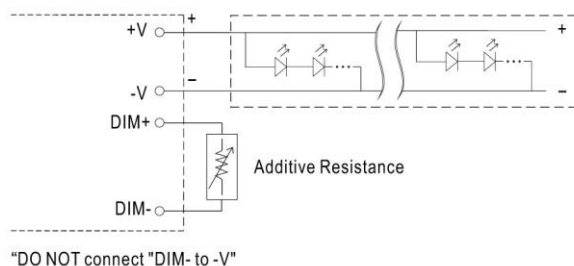
◎ Applying additive 1 ~ 10VDC



◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



◎ Applying additive resistance:





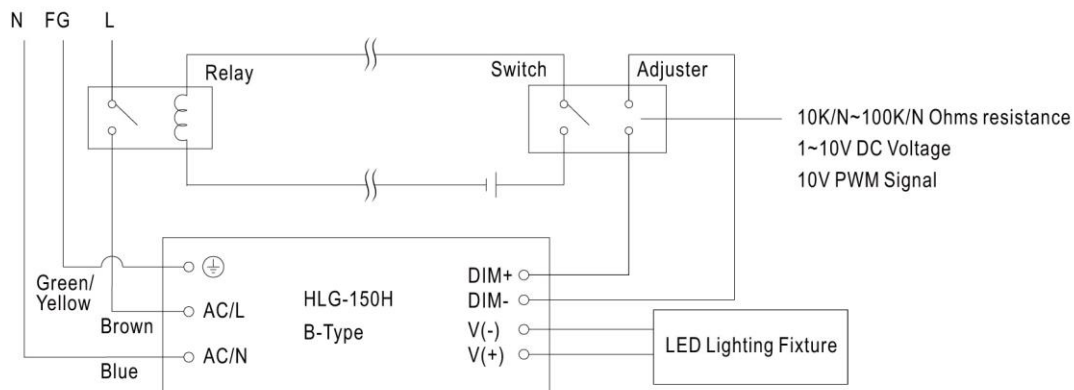
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Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



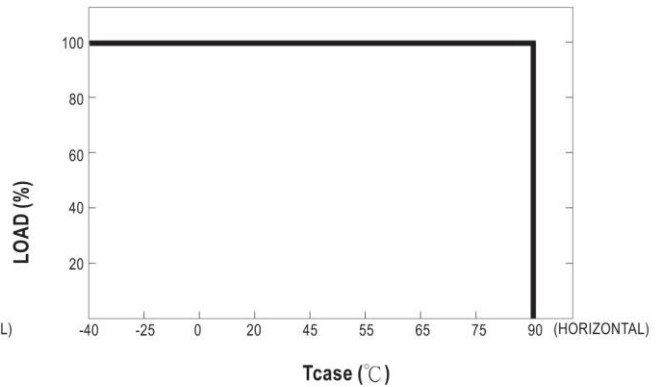
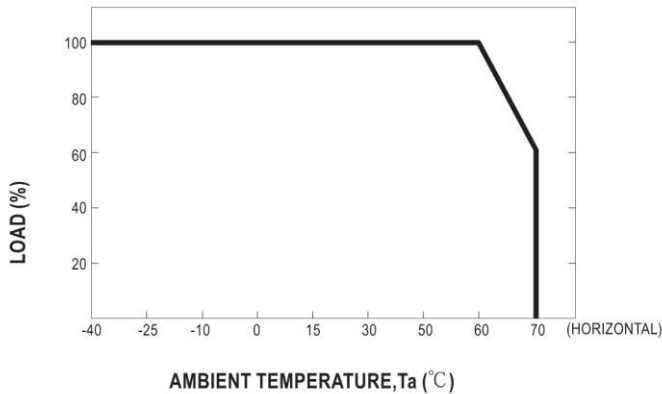
Using a switch and relay can turn ON/OFF the lighting fixture.



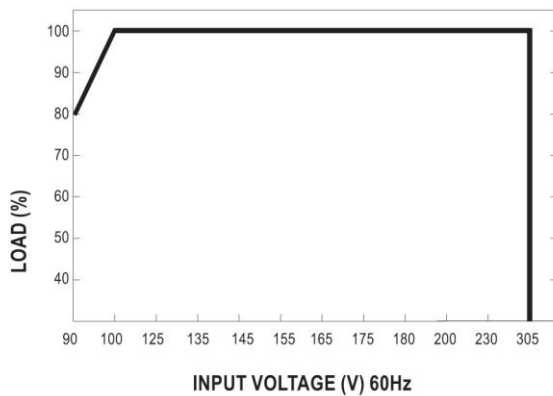
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### ■ OUTPUT LOAD vs TEMPERATURE

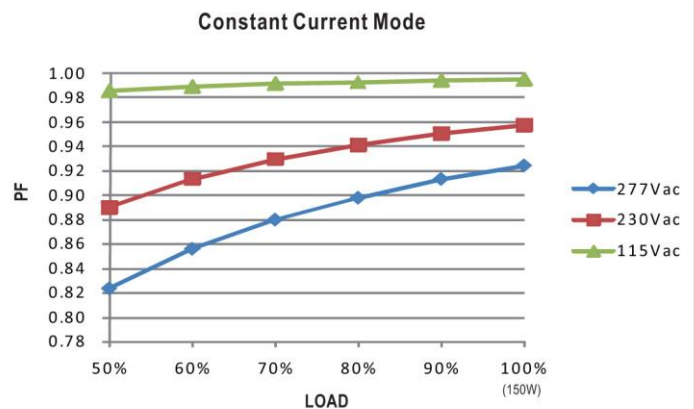


### ■ STATIC CHARACTERISTICS



### ■ POWER FACTOR(PF) CHARACTERISTIC

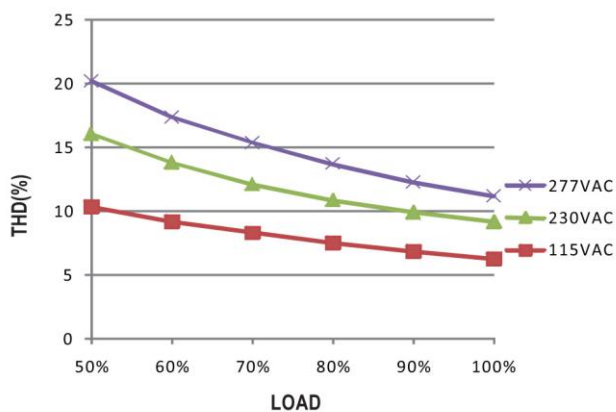
※  $T_{case}$  at 80°C



※ De-rating is needed under low input voltage.

### ■ TOTAL HARMONIC DISTORTION (THD)

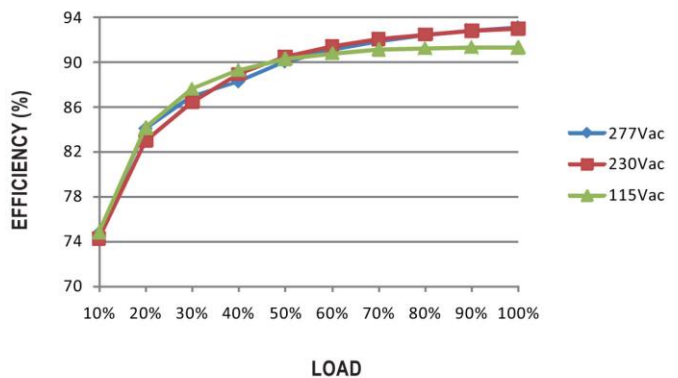
※ 48V Model,  $T_{case}$  at 80°C



### ■ EFFICIENCY vs LOAD

HLG-150H series possess superior working efficiency that up to 94% can be reached in field applications.

※ 48V Model,  $T_{case}$  at 80°C





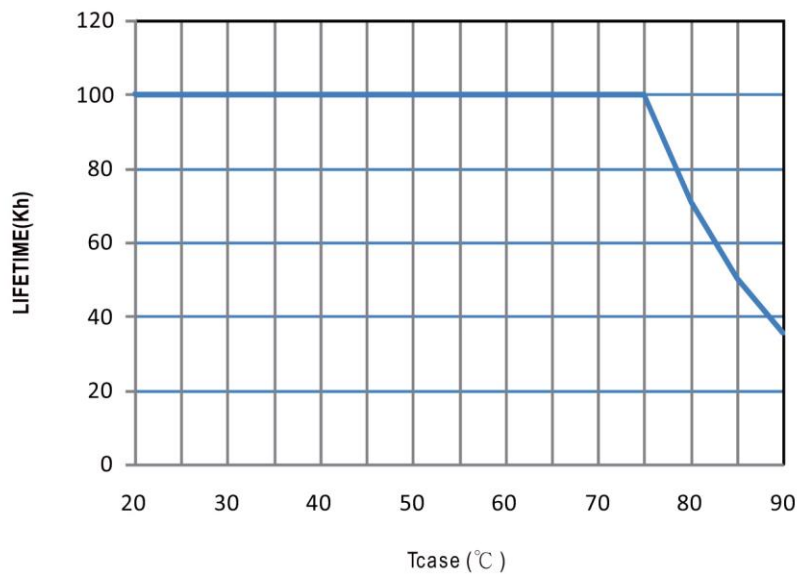
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■ LIFETIME





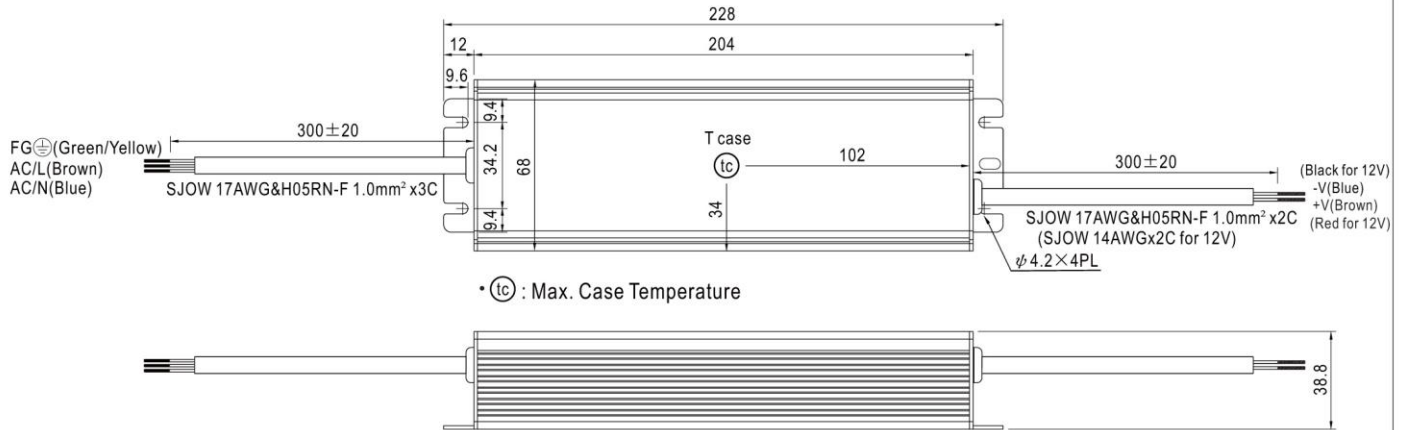
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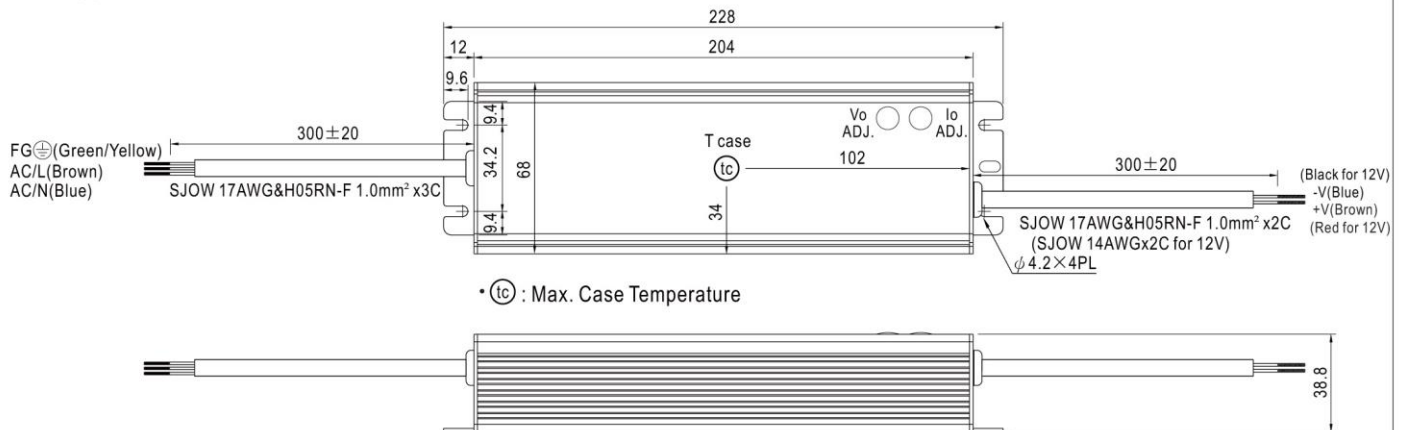
### MECHANICAL SPECIFICATION

Case No.954D Unit:mm

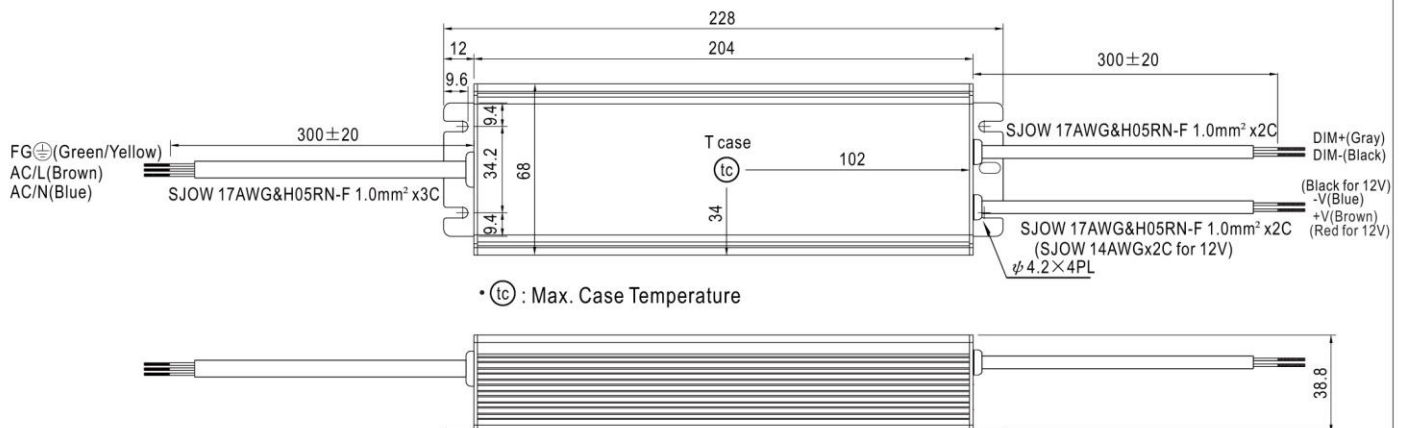
#### ※Blank/D-Type



#### ※A-Type



#### ※B-Type



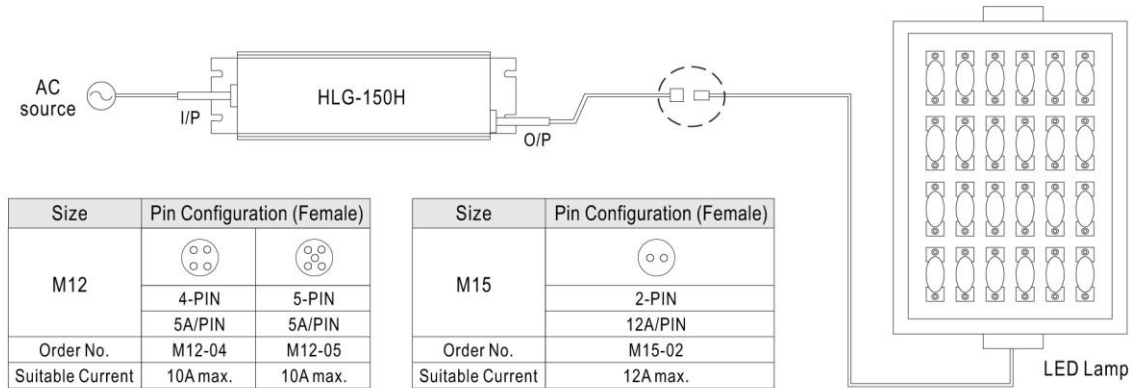


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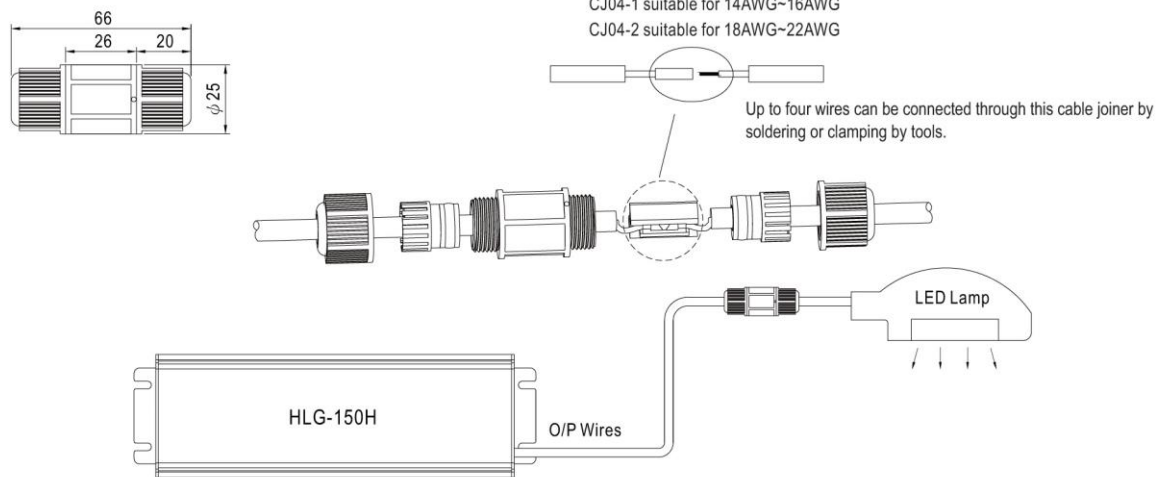
### ■ WATERPROOF CONNECTION

#### ※ Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-150H to operate in dry/wet/damp or outdoor environment.

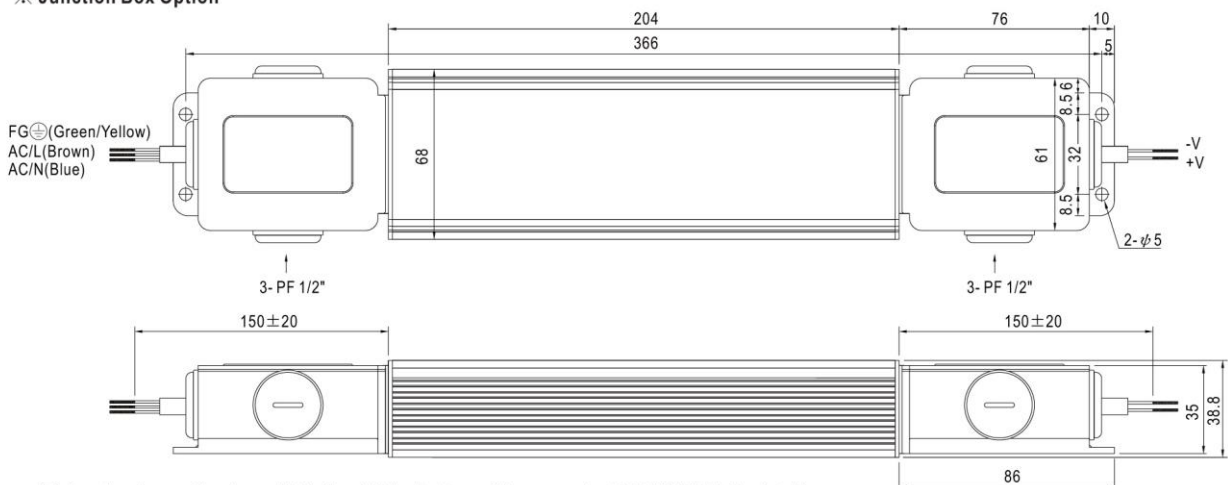


#### ※ Cable Joiner



◎ CJ04 cable joiner can be purchased independently for user's own assembly.  
 MEAN WELL order No. : CJ04-1, CJ04-2.

#### ※ Junction Box Option



◎ Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.